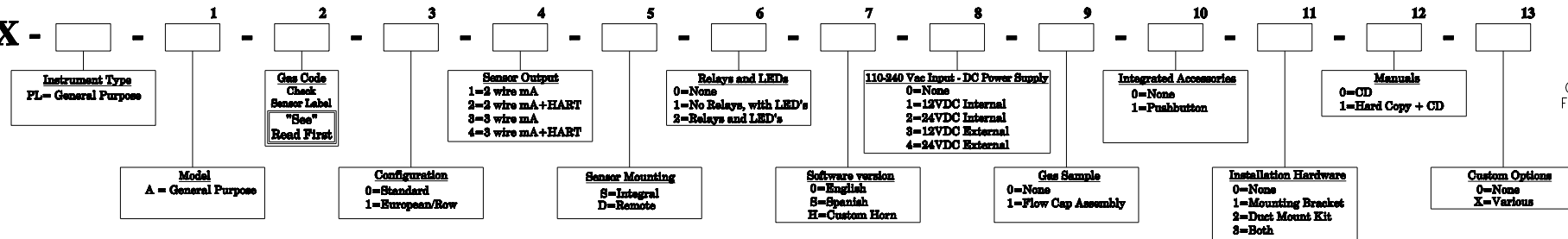


# A - ULTIMAX -



## Read First

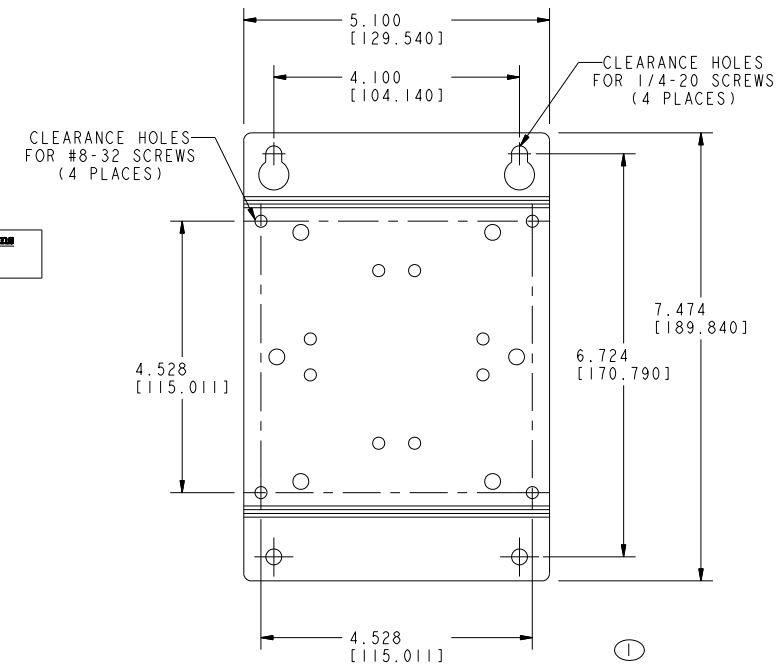
UNSCREW SENSOR ASSEMBLY

CHECK SENSOR LABEL FOR GAS TYPE AND RANGE

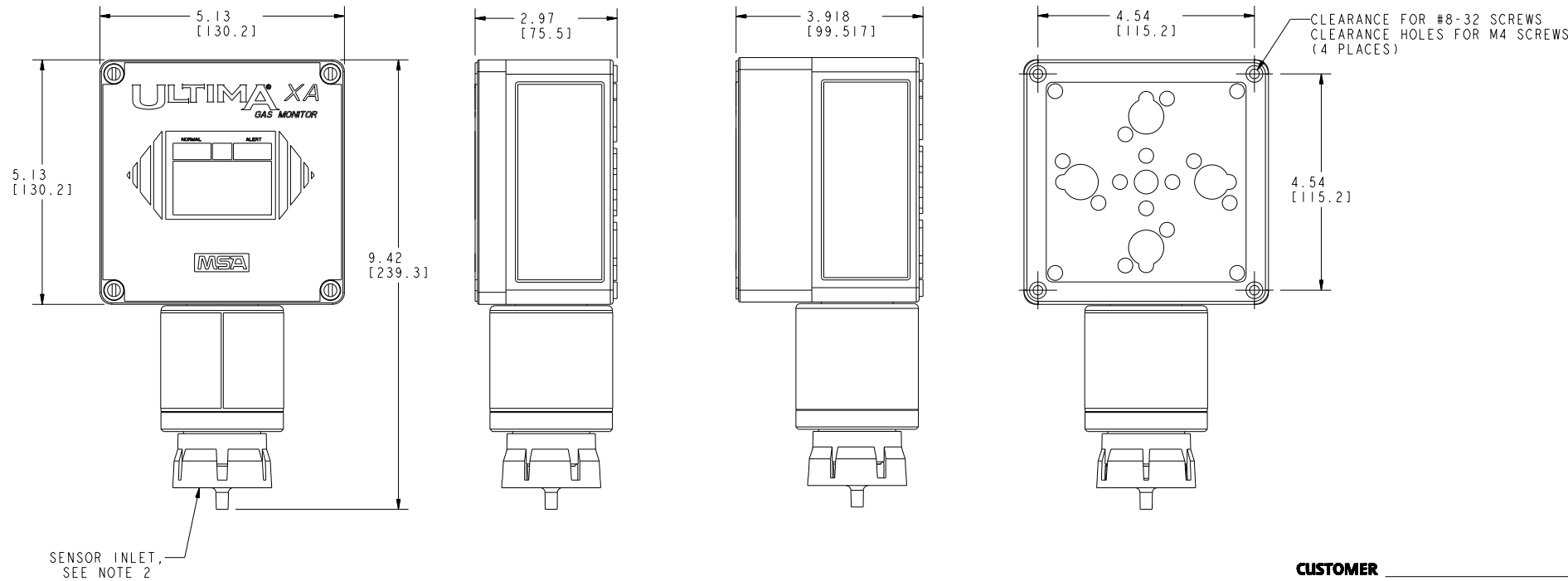
**Gas Type is:**

- "OXYGEN"
- OTHER (KNOWN AS "TOXIC" ON THIS DRAWING)

CURRENT DRAW FOR 3-WIRE UNITS with RELAYS			
Gas Type	Sensor Output	DC Voltage Supply	Max Current Draw
Oxygen or Toxic	3 Wire	8 VDC	250 mA
		12 VDC	175 mA
		24 VDC	100 mA



CABLE LENGTH AND WIRE SIZE FOR UNITS WITHOUT INTERNAL RELAYS (See value in ATO Box 7 to Identify Relay configuration)						
Gas Type	Sensor Output	DC Voltage Supply	Wire Size	Max Cable Length		Max Load Resistance
				without HART/with HART Feet	Meters	
Oxygen or Toxic	2 Wire	12 VDC	22 AWG	4000/900	274.32	100/250 Ohms
		24 VDC	22 AWG	7,000	2133.6	500 Ohms
Oxygen or Toxic	3 Wire	24 VDC	22 AWG	12,000/10,000	3048	600/500 Ohms



CABLE LENGTH AND WIRE SIZE FOR UNITS WITH INTERNAL RELAYS (See value in ATO Box 7 to Identify Relay configuration)						
Gas Type	Sensor Output	DC Voltage Supply	Wire Size	Max Cable Length		Max Load Resistance
				Feet	Meters	
Oxygen or Toxic	3 Wire	12 VDC	16 AWG	2,500	762	250 Ohms
		24 VDC	16 AWG	8,000	2438.4	500 Ohms

NOTES: 1. DIMENSIONS SHOWN IN INCHES (MILLIMETERS).  
2. MOUNT UNIT WITH SENSOR INLET FACING DOWN.

(CONTINUED ON SHEET 2)

**STANDARD ULTIMA XA**

**OPTIONAL ULTIMA XA with INTERNAL POWER SUPPLY**

**CUSTOMER** \_\_\_\_\_  
**P.O. NO.** \_\_\_\_\_  
**MSA NO.** \_\_\_\_\_  
**LOCATION** \_\_\_\_\_  
**TAG NO.** \_\_\_\_\_  
**TOTAL NO. OF UNITS** \_\_\_\_\_

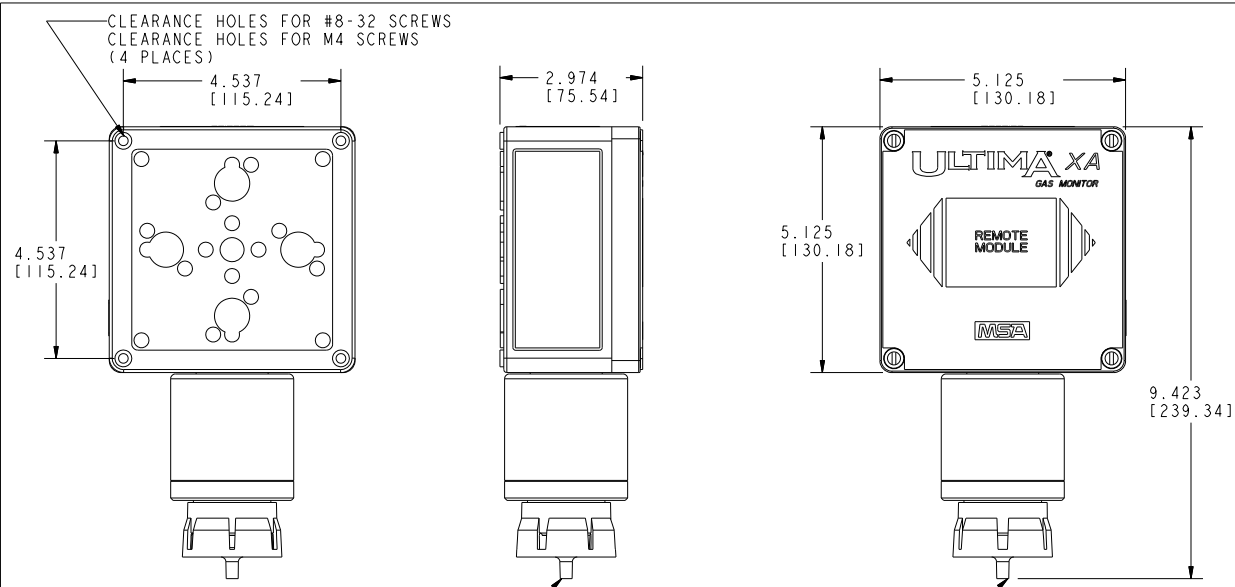
AUTHORIZED COUNTRY	<b>MSA</b>	MINE SAFETY APPLIANCES CO. PITTSBURGH, PA 15230, USA	THIS DRAWING IS THE PROPERTY OF MSA AND IS MADE AVAILABLE TO YOU IN CONFIDENCE AND SUBJECT TO THE FOLLOWING: NO PERMISSION IS GRANTED TO PUBLISH, USE, REPRODUCE, TRANSMIT OR DISCLOSE THIS DRAWING, OR ANY INFORMATION CONTAINED THEREIN TO OTHERS WITHOUT THE PRIOR WRITTEN CONSENT OF MSA EXCEPT FOR THE MANUFACTURE OF ARTICLES FOR MSA. SCHUTZVERMERK NACH DIN 34 BEACHTEN. MSA AUER GmbH.	DO NOT SCALE DWG.
	MSA STANDARD SHOP PRACTICES APPLY	JOB NO. 30009701 PHOT18	APPROVAL AGENCY CODE: YES   NIOSH ATTR. DOC.:	
	CODE SYMBOLS	DRAWN BY DATE GJT 5-23-2008		
	CRITICAL Δ	CHECKED BY S. TURNER 6-20-08		
	MAJOR A Δ (NO MARK)	PROJ. ENGR. C. LEHECKA 6-18-08		
	MAJOR B Δ	QUALITY ASSURANCE J. DANNHARDT 6-18-08		
	100% INSPECTION Δ	MANUFACTURING A. POLOCHAK 6-18-08		
	TOLERANCES UNLESS OTHERWISE SPECIFIED			
	FRACTIONAL ± 1/64			
	2 PL DEC. ± 0.01			
	3 PL DEC. ± 0.005			
	ANGULAR ± 1 deg.			
	SEE MSA STANDARD SHOP PRACTICES FOR DRILLED HOLE TOLERANCES			
		<b>D</b>	DOCUMENT NO.	
<b>INSTALLATION OUTLINE, ULTIMA XA</b>			CADD REF: SK3015-1027	SCALE: 0.625
			<b>SK3015-1027</b>	SHEET 1 OF 2

REVISIONS  
**JUN 24 2008**  
11-1-2010  
UPDATED MOUNTING BRACKET TO ACCOMMODATE PRIMAX IR ECO-70000003147A  
GJT MB

**NOV 09 2010**

LIFECYCLE STATE  
**Production**

REVISION  
**1**

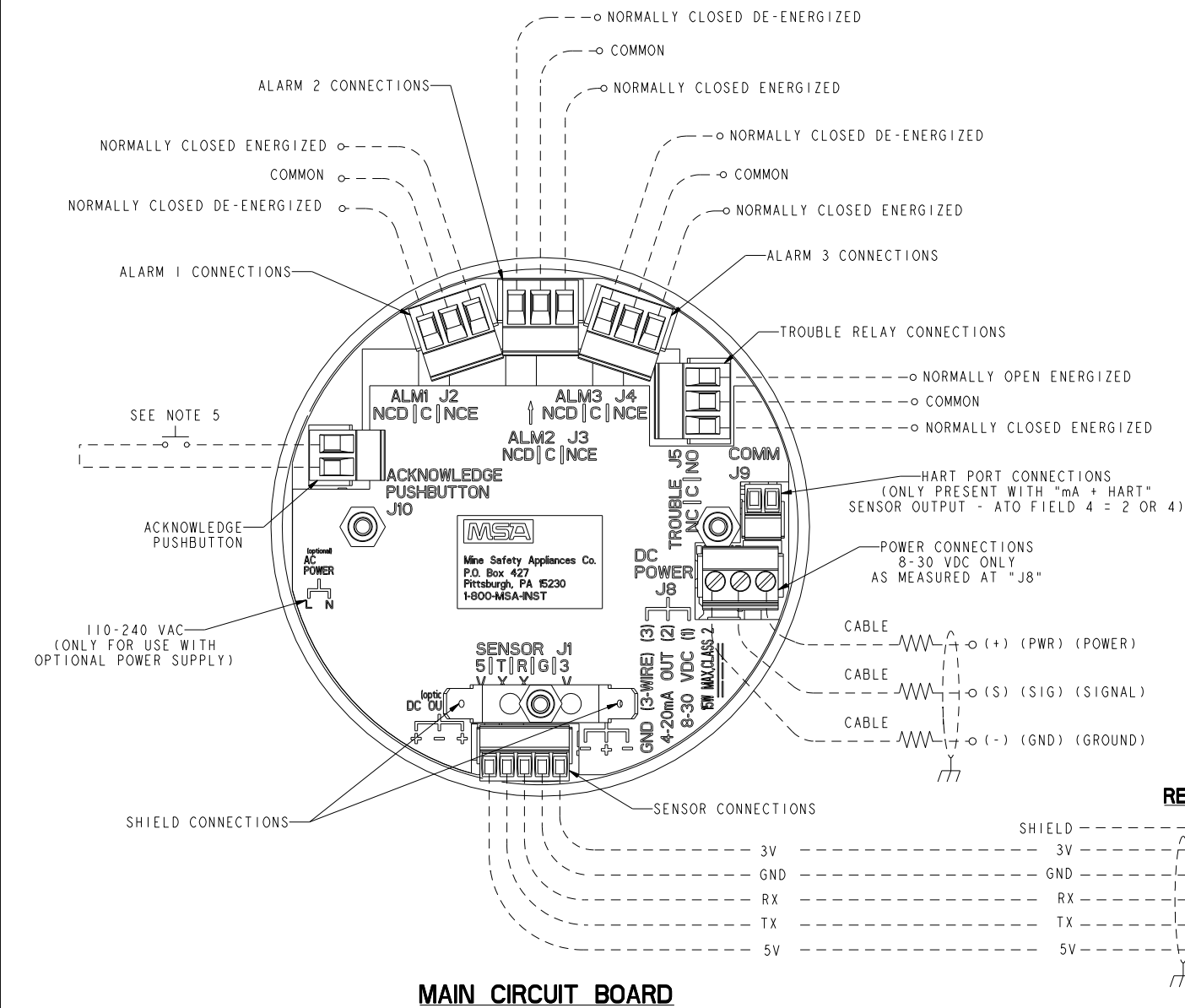


**MODULE "A"  
GENERAL PURPOSE HOUSING**

WEIGHT: 1.5 POUNDS (0.7 KILOGRAMS)  
MATERIAL: POLYCARBONATE PLASTIC

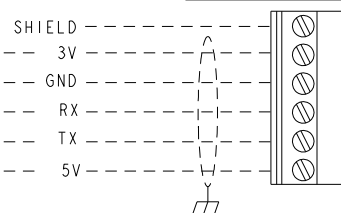
**OPTIONAL REMOTE ULTIMA XA SENSOR UNIT**

(ATO Box 5 = D for REMOTE UNIT)

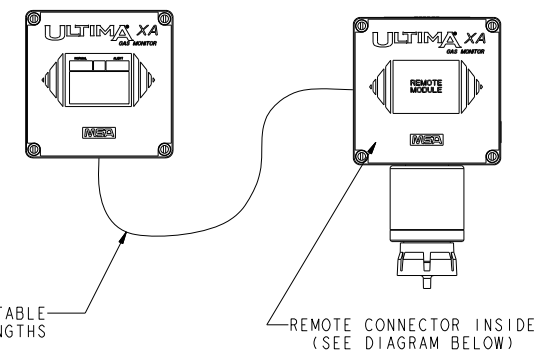


**MAIN CIRCUIT BOARD**

**REMOTE CONNECTOR**

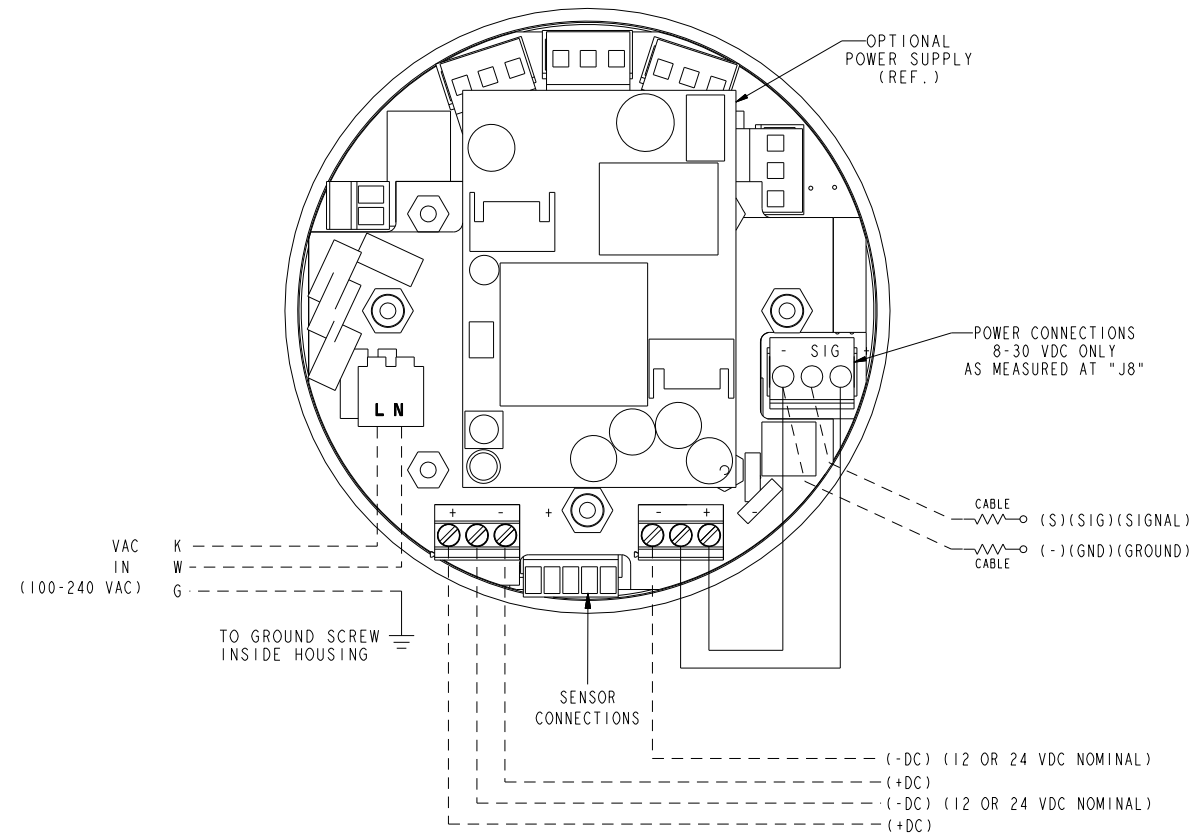


REMOTE MODULE WIRING AND PLACEMENT Use shielded, 5 conductor wire		
Gas Type	Minimum Wire Size	Maximum Distance
Oxygen or Toxic	20 AWG	100 ft.



SEE PLACEMENT TABLE FOR MAXIMUM LENGTHS

REMOTE CONNECTOR INSIDE (SEE DIAGRAM BELOW)



**MAIN CIRCUIT BOARD WITH OPTIONAL INTERNAL POWER SUPPLY**

(CONTINUED FROM SHEET 1)

- NOTES: 3. GROUND SHIELD AT POWER SUPPLY AND TERMINATE THROUGH RC NETWORK AT FAR END.  
4. - - - - - INDICATES FIELD CONNECTIONS BY OTHERS.  
5. CUSTOMER INSTALLED NORMALLY OPEN PUSH BUTTON SWITCH.

REVISIONS
JUN 24 2008
<b>REV. 1</b>
NOV 09 2010

LIFECYCLE STATE	REVISION
Production	1

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	MSA STANDARD SHOP PRACTICES APPLY	JOB NO. 30009701 PH0718 DATE 5-23-2008	APPROVAL AGENCY CODE: YES   NIOSH ATTR. DOC.:
	CRITICAL Δ	DRAWN BY GJT	<b>INSTALLATION OUTLINE, ULTIMA XA</b>
	MAJOR A Δ	CHECKED BY S. TURNER	
	MAJOR B Δ	PROJ. ENGR. C. LEHECKA	
	100% INSPECTION Δ	QUALITY ASSURANCE J. DANNHARDT	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MANUFACTURING A. POLOCHAK	CADD REF: SK3015-1027
	FRACTIONAL ± 1/64		SCALE: 0.625
	2 PL DEC. ± 0.01		DOCUMENT NO. <b>SK3015-1027</b>
	3 PL DEC. ± 0.005		SHEET 2 OF 2
	ANGULAR ± 1 deg.		
	SEE MSA STANDARD SHOP PRACTICES FOR DRILLED HOLE TOLERANCES		

COLOR CODE			
BLACK = K	GREEN = G	BLUE = B	VIOLET = V
BROWN = N	RED = R	ORANGE = O	YELLOW = Y
PINK = P	WHITE = W	TAN = T	